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ABSTRACT

The federal archeological community views public outreach programs as necessary for the continued preservation of archeological resources. This technical brief outlines ways to have archeology programs in the public schools. The efforts of the Arizona Archeological Council (AAC) to place archeological concepts and values within the context of the classroom by organizing an Archaeology for the Schools Committee in 1985 are recounted. Specifically, this brief describes the goals and motivations of the AAC's schools committee; summarizes what they learned about the "ethnography" of the Arizona school system; and highlights a strategy to get teachers to not teach archeology as much as they teach with archeology. A list of additional readings and curriculum materials is included. (DB)

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Archeology in the Classroom: A Case Study From Arizona

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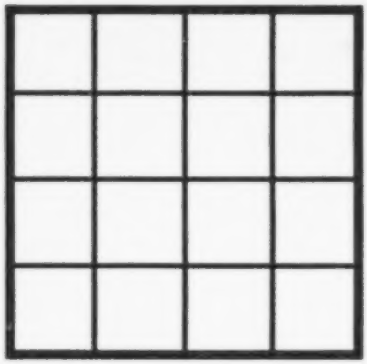

ARCHEOLOGICAL ASSISTANCE PROGRAM
Technical Brief No. 4, May 1989

ARCHEOLOGY IN THE CLASSROOM:
A Case Study from Arizona

By A. E. Rogge and Patti Bell
Arizona Archaeological Council, Archaeology for the Schools Committee

U.S. DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

There is a growing awareness that public outreach programs are necessary for the continued preservation of archeological resources. The Federal archeological community, through the Interagency Working Group on Public Awareness of Federal Archeology, has identified several goals for a comprehensive public outreach effort. This Technical Brief, which situates archeology in the public schools, and Technical Brief No. 2, which describes the "Take Pride in America" award winning Arizona Archaeology Week, are two examples of how we can further these goals.

The Archeological Assistance Division supports a clearinghouse, Listing of Education in Archeology Projects (LEAP), which serves as a guide for national, regional, and local public education projects and programs. The exchange of information about the research and developmental activities that lie behind these achievements cannot be conducted through a clearinghouse, however. Rogge and Bell recount the efforts of Arizona's Archaeological Council's schools committee to place archeological concepts and values within the context of the classroom. Their experiences, like those of countless others across the country, exemplify "what it takes" to produce the products listed in the LEAP clearinghouse.

Technical Brief No. 4 was originally one of a series of papers presented in the symposium entitled, "Fighting Indiana Jones in Arizona," appearing on the program of the 53rd Annual Meeting of the Society for American Archaeology. The papers in this symposium, all of which highlighted various approaches used to educate the public about the science of archeology, are published in the ASCA 1988 Proceedings. *The Archeological Assistance Division is publishing an expanded version of the original paper by Rogge and Bell because of the timeliness of their information. Recent amendments to the Archaeological Resources Protection Act of 1979 call on Federal land managers to increase "**public awareness** of the significance of the archaeological resources located on public lands and Indian lands and the need to protect such resources" (emphasis added).*

The January/February 1989 issue of *Archaeology* magazine is filled with predictions of what archeology will be like in the middle of the next century. Although some of the contributors are very optimistic about archeological perspectives becoming more valued as we cope with global cultural and environmental issues, other authors paint a very dismal picture for the future of archeological resources. For the past couple of decades, American archeologists have recognized the alarming rate of site destruction and responded to it by seeking regulatory protection and imposition of legal penalties against vandals and looters.

Arizona archeologists have been in the forefront of much of this "cops and robbers" approach to protecting archeological resources, but they have also come to realize the benefits of a more positive longer range tactic. Taking steps to educate the general public about the values of archeological resources and to instill a sense of why it is important to protect them may do more to conserve our cultural resources than threats of fines or jail sentences.

In 1985, the Arizona Archaeological Council (AAC) organized an Archaeology for the Schools Committee with the goal of enhancing appreciation of archeological resources among the state's younger citizens. Our committee realizes that the precollege teaching of anthropology and archeology is not a particularly new endeavor, and we have learned of many efforts to spread the message about the values of archeology into elementary and secondary schools. For example, we are aware of programs in several states including Georgia, Kentucky, Louisiana, Maine, Missouri, South Dakota, Texas, Vermont, and Virginia, as well as efforts north of the border in Toronto, Canada, and in the provinces of Alberta and Nova Scotia. We are also aware of growing interest in other western states such as Colorado, Wyoming and Montana. Our goal in this technical brief is not to review those programs but to focus on our experiences over the last few years as a case study of the challenges we have faced, the successes we have achieved, as well as the not so successful approaches we have tried.

In this brief, we

- describe the goals and motivations of the AAC's schools committee,
- summarize what we have learned about the "ethnography" of the Arizona school system, and
- highlight a strategy to get teachers to not teach archeology as much as to teach with archeology.

The Schools Committee

The AAC is a statewide organization of more than 150 people, most of whom work in some aspect of public archeology. It is similar to organizations formed in many other states in the 1970s in response to issues of professionalism in the arena of regulatory archeology and development of the subdiscipline that has come to be known as cultural resource management.

Since its formation in 1985, the AAC's Archaeology for the Schools Committee has tended to number between 10 and 20 members; activities typically involve 5 to 10 members at any given time. Committee members include professional archeologists from the federal, state, and private sectors, avocational archeologists, museum staff, and teachers. Many of the committee members are not the types of people who would typically join the AAC, but they were specifically recruited to broaden the perspective and expertise of the committee. The committee's activities reflect the strengths of enthusiastic volunteers, as well as the weaknesses of part-time, unpaid service.

The motivations of the committee members are diverse. Some members are professional educators, some are interested in public schools because they are parents, but all committee members share a common concern with giving the public a more accurate image of what archeology is all about. How many archeologists still have to explain to the uninitiated that, as practicing archeologists, they do not have houses full of really nice artifacts? And how many have to explain to their neighbors that they do not study rocks or dinosaurs? Do even the parents of most archeologists really understand the profession of their children? We find that the general public, including most teachers, knows a lot about the "Indiana Jones'" approach to archeology, but very little about what it means to say that archeology is an anthropological study of past societies.

Our members also believe that the message of archeology is simply too good to reserve for college students. The perspectives of prehistory ought to be taught to a much broader audience.

The committee's other motivation is, of course, to fight the increasing problem of vandalism and loss of sites due to development. Legislation and regulations may deter some pot-hunters, but education may be the only real hope as Arizona's population continues to explode. The protection that has been afforded to the archeological resources of the Southwest in the past has largely resulted from benign neglect. As the Sunbelt population increases, the future survival of our archeological sites will depend more and more on the public proactively valuing these resources. To make the public aware of the values will take education.

When the schools committee first organized, it enunciated three specific goals:

1. to inventory and evaluate existing public school programs and opportunities to learn about or experience archeology,
2. to formulate recommendations for enhancing student and public exposure to archeology, and
3. to offer advice or participate in developing programs and materials for students and teachers.

We have come to realize these goals were ambitious, but we are making progress in several directions.

Ethnography of the School System

We have learned several things in the past three years. First, we have come to realize that there are really quite a few teaching materials about archeology and anthropology. (See Holm and Higgins [1985] and Selig and Higgins [1986] for recent overviews of efforts to expand precollege teaching of anthropology and archeology.) We have created a partially computerized inventory of more than 200 books and pamphlets, plus almost as many audiovisual materials, but most of these materials remain unevaluated. Although we have recognized some gems (for example, *Dig 2* [Lipetzky 1982], and *Motel of the Mysteries* [Macaulay 1979]), we have made little progress toward any systematic review because of the effort this requires. (See Higgins [in Holm and Higgins 1985] for an annotated bibliography of almost 50 articles.) It does seem that the available materials are not widely used and the use they do receive largely reflects individual interests and initiatives of a limited number of teachers.

The lack of materials does not seem to be a primary reason for the limited teaching of anthropology and archeology at precollege levels, nor do we believe the reason to be the complexity or excessive erudition of the concepts involved. A more probable explanation is the fact that concepts such as ethnocentrism and cultural relativism conflict with typical nationalistic perspectives and other core societal values that schools are charged with transmitting from one generation to another (see Kehoe 1988). Earlier efforts to develop curriculum materials, such as *Man: A Course of Study*, encountered severe resistance because of such conflicts (Rice 1986). Archeology, in the eyes of most teachers, is also tinged with a certain disquieting otherworldness, but it is quite possible to convey a sense of the value of prehistoric perspectives as an adjunct to the generally accepted values of history without focusing on controversial red-flags such as creationism versus evolution.

A second thing we have learned is that Arizona school districts operate quite autonomously. They reflect the long-standing tradition of the local American school board, which grew out of the feisty early New England town governments. The state superintendent and board of education certify teachers, monitor pupil attendance, regulate some financial support, develop in-service programs, and issue curriculum guides. However, it is the local districts that guard local traditions and monitor what values are conveyed to their students. It is the local districts that make the basic day-to-day decisions about how schools are run. And, we all know from our own experience, it is the individual teacher in the classroom who is the crucial factor in determining exactly what is taught and how.

Arizona's 15 counties are divided into about 220 school districts. There are about 910 schools in these districts--an average of just over 4 per district. There are about 580,000 registered elementary and secondary students, and we estimate that there are approximately 20,000 teachers in the state's school system. This then is the size of the challenge we face in designing a system to introduce archeology into Arizona's precollege school system.

One of our committee's first major projects was to prepare an eight-page, teachers' packet, which we distributed in conjunction with a statewide celebration of Archaeology Week in 1986. The packet included several archeological activities that could be adapted for various grade levels, a brief summary of Arizona prehistory, and a list of recommended readings and places to visit. Although we managed to scrape together several hundred dollars for reproduction and postage to send a copy to virtually every school in the state, only about a dozen teachers responded to the questionnaire we had attached. We learned that media specialists and librarians in every school probably receive several mass mailings a week, and we suspect most of our cherished packets probably never emerged from the bottom of the stack to be hung on bulletin boards or to be routed to the teachers themselves. Without some personal contact, even our bright multihued packets were probably read by few teachers.

After that disappointment, we made some overtures to the state Department of Education and the state Social Studies Council to determine whether some "top down" support might help our cause. We hoped that the mandated Arizona history taught to all fourth graders might be strengthened in the area of prehistory. Although we had some polite expressions of interest and support and some acknowledgement of archeology in new social studies curriculum guidelines, the reality is that archeology must compete among a variety of social studies, none of which fare well in the move back to basics. High priority supplemental programs, such as drug prevention and sex education, stress the already full agenda, and peripheral subjects, such as archeology, are assigned a very marginal priority (Figure 1). Thus, we have come to the conclusion that the current issues and priorities facing public education will not lead to archeology becoming mandated curriculum any time soon.

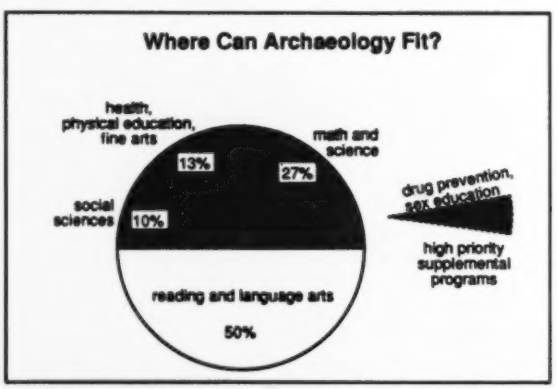

Figure 1. Typical Elementary Curriculum (see Cawelti and Adkisson 1985).

Teaching Archeology versus Teaching with Archeology

Because we are convinced that archeology will not soon be mandated in the curriculum, we are currently promoting archeology as supplemental curriculum that can be implemented without overloading teachers who feel stressed by the materials they are already expected to cover. Supplemental activities can range from a 45-minute exercise that presents a realistic perspective of prehistoric Indians (in conjunction with Columbus Day or Thanksgiving) to a several week unit involving a mock dig. Or it could simply include arithmetic story problems about the average number of sherds per broken pot or an art project modeling a prehistoric pit house or pueblo.

In addition to promoting archeological awareness as an adjunct to teaching the required curriculum, we are trying to convince teachers of the values of archeology as integrative curriculum. One of the chief strengths of archeology is that it is a motivating, fun, hands-on, experiential way of integrating artificially compartmentalized subjects, including life sciences, earth sciences, physical sciences, math, computer science, social studies, language skills, art, music, and drama. More and more teachers are recognizing that multisensual experiences greatly improve on the 10 percent retention rate for facts that have been doled out in textbook fashion (see Bruner 1963, Clark 1986, Wonder and Donovan 1984).

In fact, one Tucson teacher is convinced that an archeology unit, which included gridding and plotting artifacts, has improved her students' scores on the standard Iowa test of basic skills in the area of visual skills including reading charts, maps, and coordinates. Those are the kinds of testimonials that will win us other converts.

A California high school teacher (Onderdonk 1986) cogently argues that the spin-off values of archeology include cognitive maturation in the areas of personal involvement, reflective thinking, realistic exposure to scientific methods, and social interaction.

Many other teachers who have experimented with archeology in their classrooms have been enthusiastic about the benefits (Carroll 1987, Catalina 1983, Cotter 1979, Dyer 1983, Passe and Passe 1985, Watts 1985).

The Workshop as a Delivery Tool

In April 1986, our committee developed a display and prepared a workshop for the Rocky Mountain Regional Social Studies Conference. Although the response was not overwhelming, the experience whetted our appetites. The workshop promised to be an effective tool for spreading our message, and we developed a weekend workshop. Drawing heavily on personal contacts to generate our first roster of participating teachers, we made a pilot presentation to about 35 teachers who were hosted by the Mesa Southwest Museum during the spring 1987 celebration of Arizona Archaeology Week.

We presented the workshop again in November 1987 to about 50 teachers at the Arizona State Museum in Tucson, in April 1988 to 18 teachers at the Prescott Junior High School, and in November 1988 to another dozen teachers in conjunction with a community resource fair cosponsored by the Smithsonian Institution and the Tucson Association of Museums. For each of these workshops, we arranged for in-service credit with several school districts, which is a crucial factor in generating interest among teachers because it influences their salary adjustments.

Our workshops begin with checking in registrants and encouraging them to look at a display where we offer books for sale while they munch on the breakfast refreshments we provide. (Local book wholesalers are willing to work with us, and teachers seem to appreciate the opportunity to buy relevant materials on the spot.) The presentation begins with a fast-paced, 50-minute slide lecture introducing archeology as a subdiscipline of anthropology and presenting a brief overview of the prehistory of the Southwest. (We are currently videotaping these lectures to facilitate their use in other contexts.) For the next four or five hours, teachers participate in half-hour to hour-long, hands-on sessions where specific archeological concepts and activities are presented. The following list of activities is a mixture of adaptations of previously developed activities and ones our committee prepared:[1]

1. **Dating Methods**--a review of relative and chronometric dating of archeological remains,

2. **Simulating Prehistoric Pottery**--ceramic manufacturing and variability,

3. **Garbage Can Archaeology**--stratigraphy and artifact interpretation (Figure 2),

4. **Cultural History Mystery**--artifacts reflect changing adaptations and lifestyles,

5. **Cultural Universals**--concept of culture and commonalities among all cultures, and

6. **Trowel It**--a dig-in-a-box activity (Figure 3).

During the lunch break, we commonly try to arrange a tour of the inner sanctums of our hosting museum or a nearby facility. At the end of the afternoon, we have a wrap-up session that includes a slide program about the laws that protect archeological resources and sometimes a discussion of local archeological resources. We ask the teachers to fill out evaluations to finish the day. To get the 15 to 16 hours of contact time that is usually required for one full in-service credit, we arrange to have the teachers work on an archeology site, in a lab, or on a survey during the following day or a subsequent weekend.

The reactions to our presentations have been quite encouraging. Participants have consistently given us predominantly good to excellent ratings on almost all aspects of the

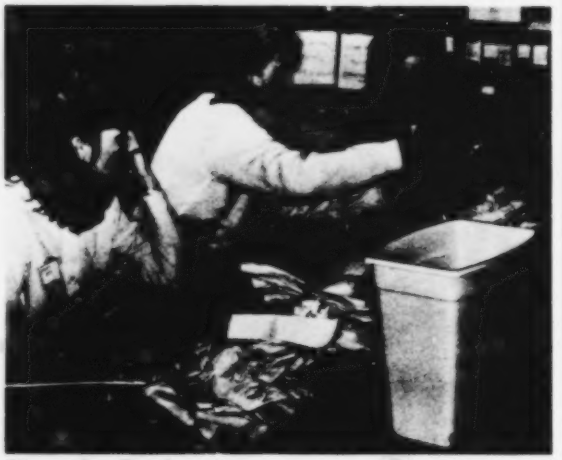

Figure 2. Teachers learn concepts of provenience and stratigraphy by doing* Garbage Can Archaeology. *(Photo by A. E. Rogge)

workshop (Figure 4). We interpret this response as an "A" grade and are quite proud of what we have been able to accomplish with only a few volunteers. We hope these ratings mean these teachers are using the materials in their classrooms. The most popular modules are the ones that involve the most hands-on activity such as **Trowel It** and **Cultural History Mystery**. Technical modules, such as the one on various dating methods, have been less enthusiastically received but still get a grade of good or better from three-fourths of the participants.

We believe that much of our success in developing the workshop format and materials is due to the direct involvement of not only archeologists who have substantial experience in working with students but actual classroom teachers who understand our audience. We have cast our materials into a lesson plan format familiar to teachers, with the full realization that most of them will not have the time to

Figure 3. The* Trowel It *activity illustrates for teachers the concepts of archeological context and techniques of excavation and teaches the participants how to formulate interpretive hypotheses. (Photo by Patti Bell)

ADDITIONAL READINGS AND CURRICULUM MATERIALS

This sampler contains a selection of readings, curriculum materials, and other educational programs that have been brought to our attention. Interested readers should contact their local cultural organizations such as museums, heritage centers, and archeological societies for further assistance.

ALBERTA, CANADA
First Albertans Project, 1987. For grades K-12. Contact: **Archaeological Survey of Alberta, Historical Resources Division, Alberta Culture, Edmonton, Alberta T6G 2P8.**

ARIZONA
Archaeology Is More Than a Dig by Jodi Simmons, Larry Tanner, Sharon Urban, and Lou Ellen Watts, 1985. Teachers' Manual and Workbook for grades 3-6 and adaptable for all grades, cost $25.00. Contact: **Carol Ellick, Camp Cooper, Tucson Unified School District, P.O. Box 40400, Tucson, Arizona 85717-0400.**

Teachers' Packet of classroom activities and information about Arizona archaeology, cost $6.00. Contact: **Shurban, Arizona Archaeological Council, Archaeology for the Schools Committee, Arizona State Museum, University of Arizona, Tucson, Arizona 85721.**

from teachers:
Exploring Archaeology--10 Week Science Unit, grade 5, 20 pp. and *Protection of Archaeological Sites*, activities for K-8, 40 pp. Contact: **Patti Bell, 8845 Pine Valley Drive, Tucson, Arizona 85710.**

Introduction to Archaeology, unit for gifted upper elementary students. Contact: **Jeanne Miller, 1334 W Temple, Chandler, Arizona 85224.**

GEORGIA
Frontiers in the Soil: The Archaeology of Georgia by Dickens, Roy S., Jr. and James L. McKinley, 1979. Cost $10.00 plus postage. Contact: **Frontiers Publishing Company, P.O. Box 3474, La Grange, Georgia 30241.**

KENTUCKY
The Prehistory of Man in Kentucky by Kathryn Fraser, 1986. *Studying the Prehistory of Man in Kentucky* (teachers resource volume and activities volume), 1983 and *Environmental Approaches to Prehistory/Archaeology*, by Jim Carpenter and Kathryn Fraser, 1980. Cost $5.00 per volume. Contact: **Center for Environmental Education, Murray State University, Murray, Kentucky 42071.**

LOUISIANA
Classroom Archaeology by Nancy W. Hawkins, 1984. Educator's Manual for all grades K-12, free. Contact: **Division of Archaeology, Department of Culture, Recreation and Tourism, State of Louisiana, P.O. Box 44247, Baton Rouge, Louisiana 70804.**

MAINE
Discovering Maine's Prehistory Through Archaeology: An Interdisciplinary Curriculum Unit for Grades 5-8 by Diane R. Kopec, 1987. Contact: **Maine Historic Preservation Commission, 55 Capitol Street, State House Station 65, Augusta, Maine 04333.**

MISSOURI

Culture Vulture--An Exploration into Culture and North American Prehistoric Peoples by Sheila Morrow and Eleanor Casebolt, 1984. For grades 6-8. Contact: **Kansas City Parks & Recreation, Line Creek Museum, Kansas City, Missouri 64151.**

SOUTH DAKOTA

Young People's Guide to South Dakota Archaeology; *Ancient Peoples and Places of South Dakota*; and *South Dakota Archaeology Educational Series*, 1982. For grades K-12. Contact: **Department of Anthropology, University of South Dakota, Vermillion, South Dakota 57069.**

TEXAS

The Indian Years, Living with the Texas Past Series, No. 1, 1983. Contact: **Texas Historical Commission, Office of the State Archaeologist, P.O. Box 12276, Austin, Texas 78711.**

VERMONT

A Teacher's Guide to 12,000 Years of Vermont's Past compiled by Lauren Kelley Parren, 1987, and *Teachers Resource List* by Giovanna Peebles, 1985. Contact: **State Archaeologist, Division for Historic Preservation, 58 E State Street, Montpelier, Vermont 05602.**

VIRGINIA

Archaeology/Walney by Michael Harrison, 1984. Historical archeology for grades 7-12, teacher's guide. Contact: **Fairfax County Park Authority, 3701 Pender Drive, Fairfax, Virginia 22030.**

OTHERS

Anthro Notes, a National Museum of Natural History Newsletter for Teachers, published three times a year, free-of-charge. Contact: **P. Ann Kaupp, Public Information Office, Department of Anthropology, Stop 112, Smithsonian Institution, Washington, DC 20560.**

Teaching Anthropology Newsletter is published twice a year to promote precollege teaching of anthropology, free-of-charge. Contact: **Department of Anthropology, Saint Mary's University, Halifax, Nova Scotia, Canada B3H 3C3.**

LEAP (Listing of Education in Archeology Projects), a clearinghouse established by the Archeological Assistance Division to provide information about Federal and non-Federal public awareness products, i.e., posters, brochures, publications, news releases, videos, television segments, exhibits and displays, and volunteer programs. Information about Federal and non-Federal curriculum materials is welcomed. Contact: **George Smith, Archeological Assistance Division, National Park Service, P.O. Box 37127, Washington, DC 37127-7127.**

Heritage Education Quarterly, a national publication for teachers, planners, preservationists, educators, museums, and civic groups. Provides project information in heritage education programs for children and adults, case studies, and lesson plans. Contact: **The Preservation Library and Resource Center, 498 Smith Main Street, Madison, Georgia 30650.**

Crow Canyon Archaeological Center has teachers' workshops, a high school field school, elementary and junior high student programs, and adult seminars. Contact: **Crow Canyon Archaeological Center, 23390 County Road K, Cortez, Colorado 81321.**

Toronto's Archaeological Resource Centre annually introduces some 12,000 precollege students to archeology. Contact: **Karolyn E. Smardz, Manager, c/o Danforth Technical School, Room A4, 840 Greenwood Avenue, Toronto, Ontario, Canada M4J 4B7.**

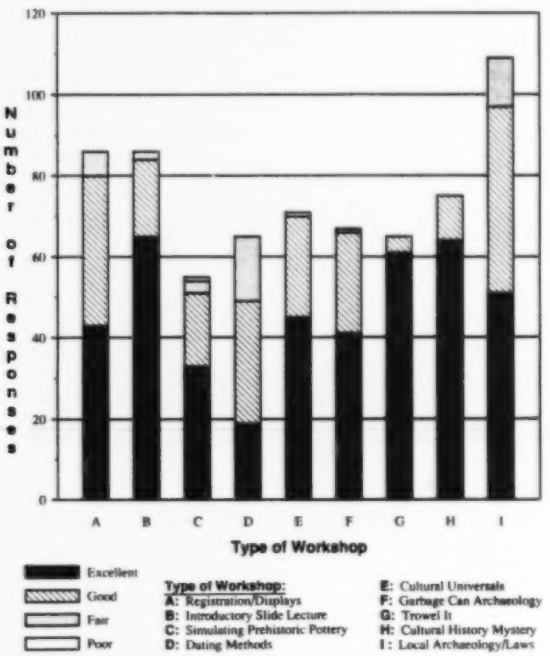

Figure 4. Teacher Evaluations of workshops.

seek out additional information before using them. The content and organization of the workshop are dynamic, and we are continually trying to respond to comments and suggestions from the participants.

We initially charged $5 to cover the cost of the packet of materials we distribute at the workshop, but we have been able to raise our tuition fees to $20 without any complaints of gouging. That income and the money from book sales typically cover our costs, which are averaging $300 to $400 per workshop. All labor is volunteered, and we have managed to use rent-free facilities, overcome liability insurance issues, and subsidize much of our cost for sending out announcements and registration forms through our members' institutions. The enterprise clearly has the potential of being virtually self-sustaining--as long as the volunteer efforts and cooperation hold out.

Future Challenges

During our first year of workshops, about 100 teachers participated. At that rate, it will take us only 200 years to indoctrinate every teacher in Arizona! Although that is a short time by archeological chronologies, it is a daunting challenge in real time, even if many teachers who attend our workshop in turn introduce several of their colleagues to archeology. But we are not working alone in Arizona. Spin-off workshops by other organizations are being developed, and numerous public outreach programs are being pursued throughout the state (Rogge 1988).

We know other groups in other states are out there working towards goals similar to those we are pursuing. We suspect that some national coordination of these grass-root efforts might be useful, and there are several candidate organizations or institutions that might provide national leadership. We call particular attention to the Smithsonian's program of teacher support and its publication of *Anthro Notes*, which seems to us to be a very viable mechanism for building a strong national network. Whoever takes on the job will need funding as well as continuing volunteer efforts. We would point to Project WILD as a successful model to emulate (WREEC 1988). The result of a three-year cooperative effort by state education and wildlife agencies and other environmental organizations throughout the West, Project WILD distributes an impressive set of supplemental curriculum materials that focus on the importance of natural resources. We believe that our cultural resources warrant as much effort.

Despite all the challenges of educating the general public about archeology, we remain optimistic that people's inherent interest in archeology is on our side and that the heightening environmental awareness of the general public will continue to spread to cultural resources. From the perspective of archeologists in A.D. 2050, the educational efforts we initiate in our public school systems today are likely to be seen as a crucial factor in determining the condition of our cultural resources in the next century.

Note

[1] Committee members who contributed substantially to the development of the workshop materials include teachers Donna Benge, Jeanne Miller and Jean Cross (retired); Arizona State Museum staff members Charles Adams, Rich Lange and Shurban; teaching consultant Barbara Gronemann; and Federal archeologist Penny Rucks.

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